NASA – LANCE FIRMS MODIS Active Fire Text files

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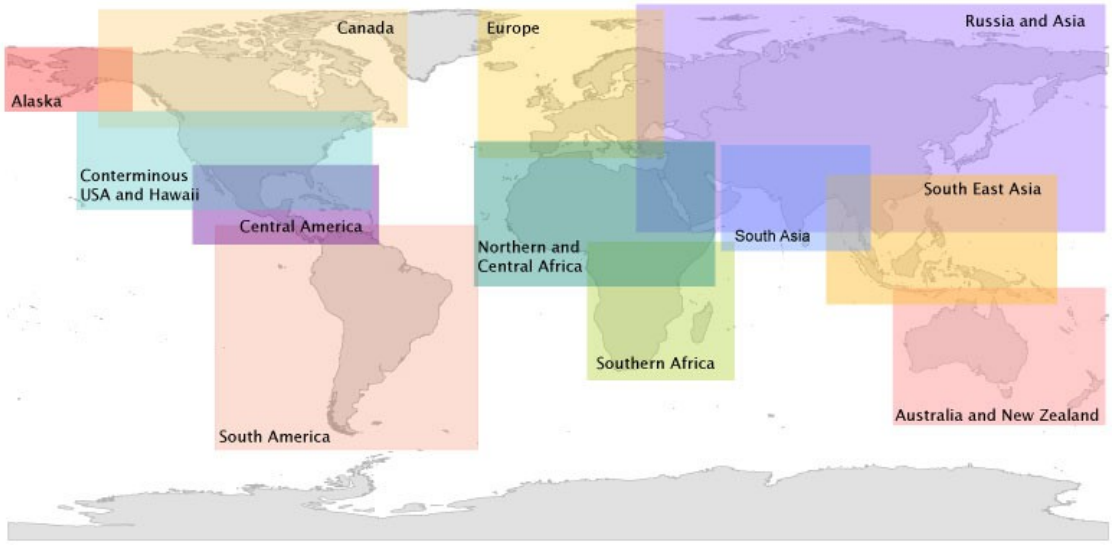
1. How to download the Active Fire Text files

To access the ftp site you need to be registered in the NASA EOSDIS User Registration System. If you already have an account, you can download the Text files from: ftp://nrt1.modaps.eosdis.nasa.gov/FIRMS/ on the primary system and ftp://nrt2.modaps.eosdis.nasa.gov/FIRMS/ on the backup system.

If you need to register go to: https://urs.earthdata.nasa.gov/users/new

The MODIS Active Fire Text files are available as global and regional files. Please refer to the following image to determine which region you are interested in.



The Active Fire Text files are posted on an FTP site at approximately 00:00 UTC each morning. The file continues to be updated as is processed through the day (so the text file changes throughout the day). If you want to use the Active Fire Text files in near-real time, you should check what time of day the Aqua or Terra satellite passes over your area (see https://earthdata.nasa.gov/faq#ed-modis-overpass). The file should be updated within three hours of satellite overpass.

2. Naming Convention of the Active Fire Text files

The naming convention for the Active Fire Text files begins with the region name (except for the Global files), MODIS active fire product name, and the Julian day. For example: CS_Africa_MCD14DL_2011041.txt

"2011" is the year and "041" is the Julian day of the active fire detection. This equates to March 10, 2011.

A Julian Day Calendar and converter can be found at:
http://www-air.larc.nasa.gov/tools/jday.htm

3. About the Active Fire Text Files

The attribute fields are as follows:

1. Latitude
2. Longitude
3. Brightness Temperature (Kelvin)
4. Along scan pixel size
5. Along track pixel size
6. Date of acquisition
7. Time of acquisition (UTC)
8. Satellite (A=Aqua and T=Terra)
9. Confidence (0 – 100%)
10. Version (Collection and source)
11. Brightness T31 (Kelvin)
12. FRP (Fire Radiative Power) (MW)

Notes:

- ≅ The along scan and along track pixel sizes are included. Although the algorithm produces 1km fire pixels, MODIS pixels get bigger toward the edge of scan.

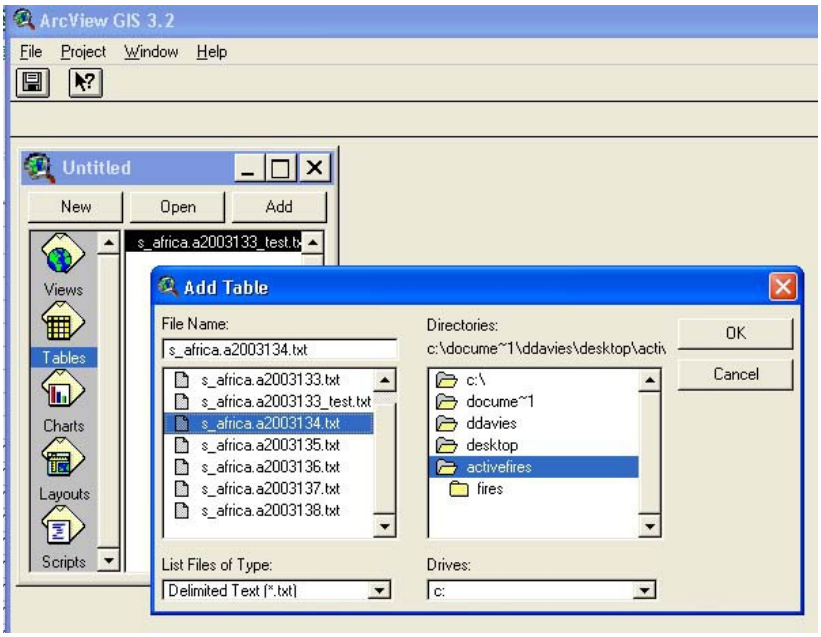
- The confidence value is based on a collection of intermediate algorithm quantities used in the detection process. A detection confidence intended to help users gauge the quality of individual hotspot/fire pixels. This confidence estimate, which ranges between 0 and 100%, is used to assign one of the three fire classes (low-confidence fire, nominal-confidence fire, or high-confidence fire) to all fire pixels within the fire mask. The confidence field has been improved with Collection 5 to more accurately identify questionable hotspot/fire pixels.
- Version: Refers to collection and source. The number before the decimal refers to the collection (e.g. MODIS Collection 5). The number after the decimal indicates the source of Level 1B data. There are two sources: 1) data processed **in near-real time** (NRT) by NASA-LANCE has the source code ".0", 2) standard data, processed by the University of Maryland and distributed by FIRMS, will have a source code ".1". So version:
  - 5.0 is NRT collection 5 data
  - 5.1 is standard collection 5 data.

  For more information on collections and on the differences between Rapid Response and MODAPS, please see https://earthdata.nasa.gov/faq#ed-firms-umd
- Brightness Temperature: Brightness temperature of the fire pixel measured in Kelvin.
- Brightness Temperature Channel 31: Channel 31 brightness temperature of the fire pixel measured in Kelvin.
- FRP (Fire Radiative Power): Depicts the pixel-integrated fire radiative power in MW (MegaWatts).

4. Downloading the text files and incorporating them into ESRI ArcMap and ArcView

4.1 Displaying active fire data in ESRI ArcMap

1. Open ArcCatalog and go to the txt file you want to display.
2. Right click on the file and select:
   "Create Feature Class" -> "From XY table"
3. Click on "Spatial Reference of Input Coordinates" and "select"
   "Geographic Coordinate Systems" / "World" / "WGS 1984.prj"
   Click "Add" "OK" and "OK" again to create the shp file.



4. To load the data into ArcMap; open ArcMap, click on the Add Data button (or select File / Add data) and select the shape file you created.

4.2 Displaying the active fire data in ESRI ArcView 3.x

1. Add a table to your ArcView project.
2. Navigate to the drive and directory where your txt file is stored.

Note: Under the "List Files of Type" pull down menu, choose "Delimited text (*.txt)".

3. Select the file you just created and click OK. It will open into a new table window.
4. Open the view you are working in (if necessary create a new one).
5. Once in your view choose **View / Add event theme…** from the top menu. Select the table you have just imported

Note: make sure the X field represents longitude and Y field represents latitude, and then click OK.

6. Turn on the layer visibility to see all fires as points. Use "Convert to shapefile…" in the theme menu if you want to store the file as an ArcView shapefile permanently.

5. Citation and Disclaimer

NASA promotes the full and open sharing of all data with the research and applications communities, private industry, academia, and the general public. Read the NASA Data and Information Policy.

If you provide the LANCE / FIRMS data to a third party, we request you follow the guidelines in the citation and replicate or provide a link to the disclaimer.

Citation

Please note that data distributed from FIRMS comes from 2 sources: 1) near real-time data (MCD14DL) and 2) data extracted from standard data files (MCD14ML). If you are using the data in a scientific publication, you should be very clear which source you use. We recommend you read the MODIS Fire User Guide version 2.5 to ensure you are using the most appropriate source of MODIS active fire data for your application.

For more information about FIRMS and MODIS, visit the FIRMS FAQ.

For general acknowledgement of FIRMS data and imagery:

> *We acknowledge the use of FIRMS data and imagery from the Land, Atmosphere Near real-time Capability for EOS (LANCE) system operated by the NASA/GSFC/Earth Science Data and Information System (ESDIS) with funding provided by NASA/HQ.*

For Near Real-Time data only:
NASA FIRMS NRT MODIS Near real-time Hotspot / Active Fire Detections MCD14DL data set. Available on-line [https://earthdata.nasa.gov/firms].

For standard data (MCD14ML) extracted from the FIRMS Download Tool:
MODIS Active Fire Detections extracted from MCD14ML distributed by NASA FIRMS. Available on-line [https://earthdata.nasa.gov/active-fire-data].

In the unwise event you use a mixture of near real-time and standard data, you will need to cite both MCD14DL and MCD14ML (extracted by FIRMS).

Disclaimer

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